Q and A for Smith

1. What is the variation on radioactivity for Arronax Batches? Slide 2.

2. Provide rationale for budgets in 2013 and 2014 with projected and DOE guidance? (Slides 3,4,5)

3. Provide evidence of radiation dose to MIRP staff ? Slide 6 and 7

4. Do you have a clear decision tree for release of product? Slides 8 and 9

5. Provide estimates for infrastructure upgrade in TPL and BLIP for 2015 and 2016. Slide 10

6. Provide evidence of integration of work planning and process changes? (hard copy provided to Gene Jackson.

Additional Questions and Answers

What is the variation on radioactivity for Arronax Batches?

Batch ID	Arronax reported (mCi)	BNL assayed (mCi)	%difference=(BNL-Arr)/Arr
Sr82-A-14-01	1970.02	1952	-0.91%
Sr82-A-14-02	2542.02	2413.6	-5.05%
Sr82-A-14-03	2567.7	2461	-4.16%
Sr82-BA-14-01	2556.1	2515	-1.61%
Sr82-BA-14-02	2593.77	2401	-7.43%
Sr82-A-14-04	2694.1	2667.7	-0.98%

Mission Ready and Production Costs FY14 and FY13

2014	Inf – BLIP ($)	Inf – HC ($)	Production ($)		Rational variance
Salary	236482	1183013	990732	X	Staff for Sr-82 production
Recharges	47686	186898	61704	✓	
Purchases & Subcontracts	121268	395888	256411	✓	
ODC (Other Direct Charges)	307035	449797	434954	X	HP support maintenance Biodex shipments
Research Machines			2303173	X	Dedicated beam time
Power		31164		✓	
Space	72551	434161		✓	
Waste	30656	141179	138387	✓	
Total Costs	**815678**	**2822100**	**4185361**		
2013	**Inf – BLIP ($)**	**Inf – HC ($)**	**Production ($)**		
Salary	419167	1307418	680464	X	
Recharges	21103	170888	117747	✓	
Purchases & Subcontracts	81739	511772	236795	✓	
ODC	135202	687783	134315	X	
Research Machines	114		1477946	X	
Power		23048			
Space	73162	414881			
Waste		211163	147117	✓	
Total Costs	**730487**	**3326953**	**2794384**		

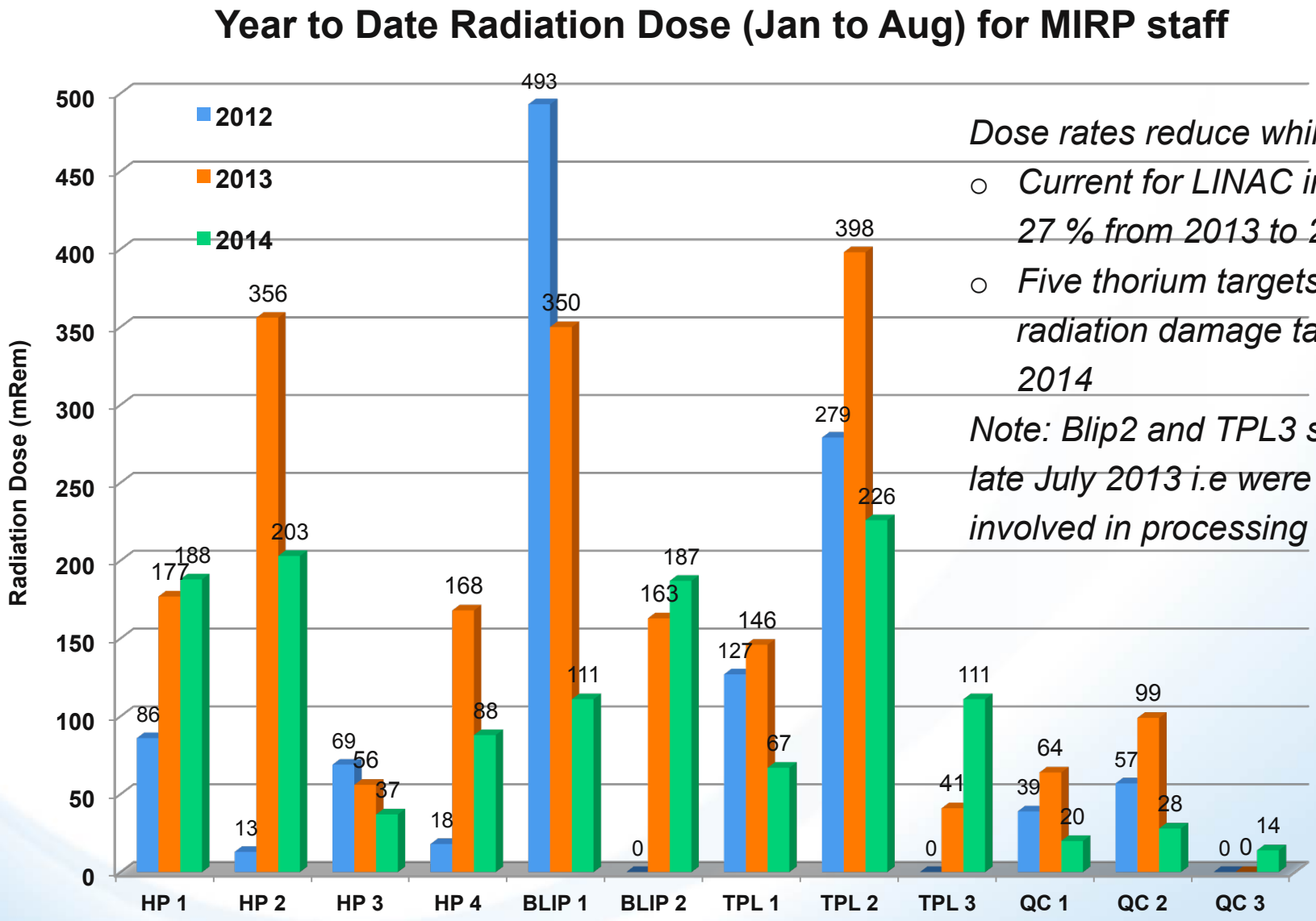
Budgets for 2014 and 2013 Actual vs Requested Budget

	FY2014		FY2013	
	Actual	Budget	Actual	Budget
Infrastructure-Hot Cell	2,822,100	3,288,655	3,326,953	3,032,621
Irradiation Infrastructure	815,678	808,960	730,487	730,604
Production--Sr-82	4,107,698	4,508,667	2,356,396	1,728,108
Production--Zn-65	24,634	24,155	9,238	12,578
Production -- Ge-68	512	310,588	259,213	402,972
Production - Y-86	0	23,425	45,932	14,132
Production Fe-55	1,246	5,965	1,564	3,637
Production Cu-67	12,190	86,431	101,746	48,741
Production Be-7	0	15,802	0	10,113
Production NI-63	20,171	27,005	15,928	13,295
Production Fe-52	0	12,329	0	
Production Rb-83	18,910	17,154	4,366	7,969
65356/65356 ARRA-Dvlp Spprt Isotp Prod	207		188,984	
ARRA-Dev PET Isotope Yttrium-86	0		(162)	
ARRA-Study of Zinc Rctn Cu-67	0		2,447	
00614 Isotope Research & Development Core	595,446	273,378	417,601	
00599 Prod of High Specific Activity Cu As	112,435	352,833	30,943	
00597/00597 Development of Ac-225	204,845	424,318		
70046 AIP Raster Upgrade	1,645,906			
70056 Linac Intensity Upgrade Ph 1	60,238			
	10,442,215	10,179,665	7,491,636	6,004,770

Budget for 2013 and 2014 Budget and Funding Guidance and Carryover

	FY2014 (budget)		FY2013 (budget)	
	Inf - BLIP	Inf - HC	Inf - BLIP	Inf - HC
Salary & ODL	377,398	1,332,831	343,155	1,330,263
Recharges	24,463	158,262	52,966	133,931
Purchases & Subcontracts	194,139	476,076	119,262	410,586
ODC	140,111	721,333	142,751	574,966
Research Machines				
Power		30,000		30,000
Space	72,850	419,904	72,470	417,716
Waste		150,249		135,159
Total Costs	808,961	3,288,655	730,604	3,032,621
Funding Guidance	536,000	3,085,000	520,000	2,900,000
PY Carryover	410,669	339,346	576,156	515,785

What is the radiation dose for staff in MIRP?

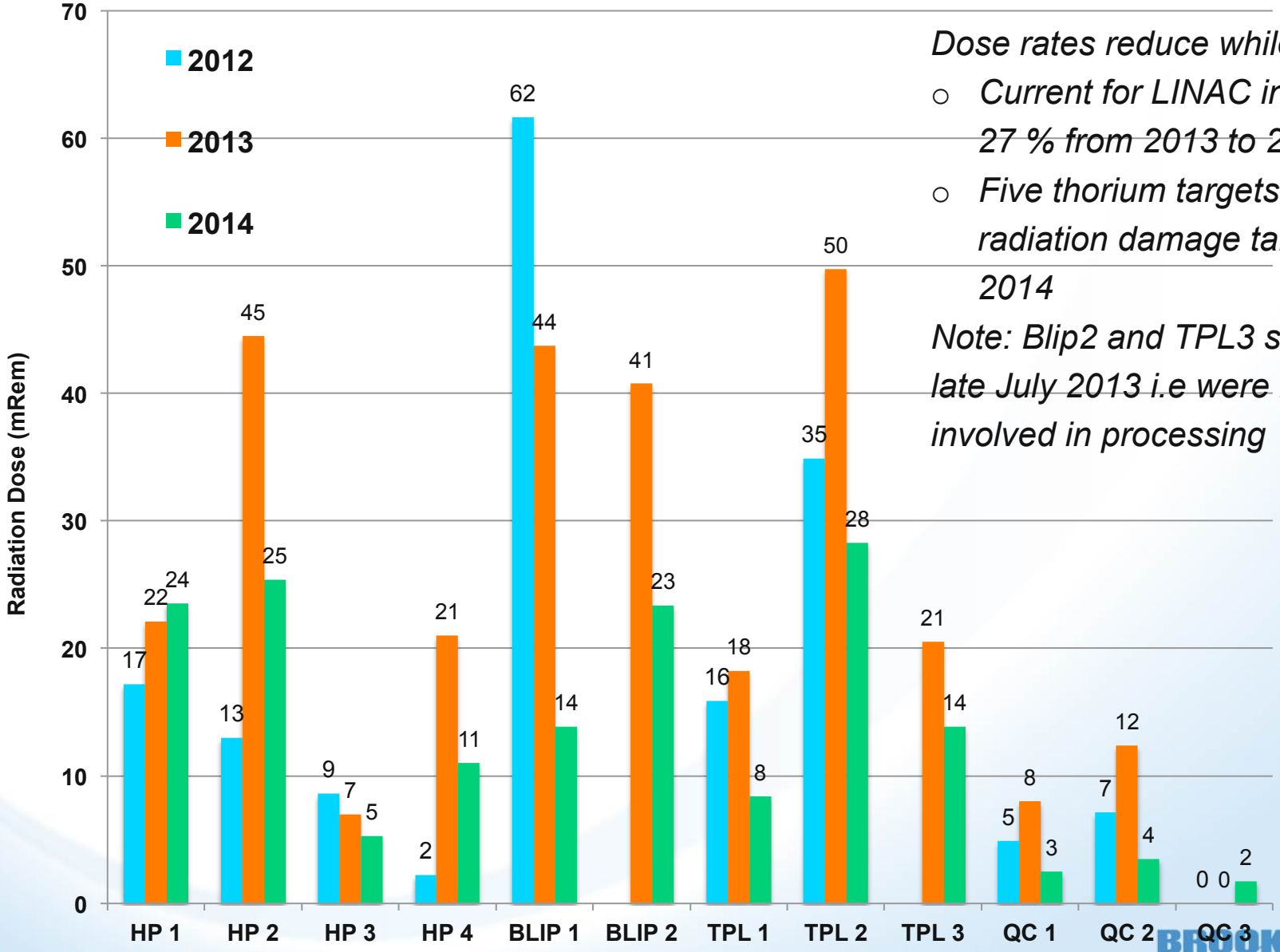


Dose rates reduce while

- *Current for LINAC increased 27 % from 2013 to 2014.*
- *Five thorium targets and long radiation damage targets in 2014*

Note: Blip2 and TPL3 started late July 2013 i.e were not involved in processing

Monthly Radiation Dose for MIRP staff (for Jan to Aug)



Dose rates reduce while

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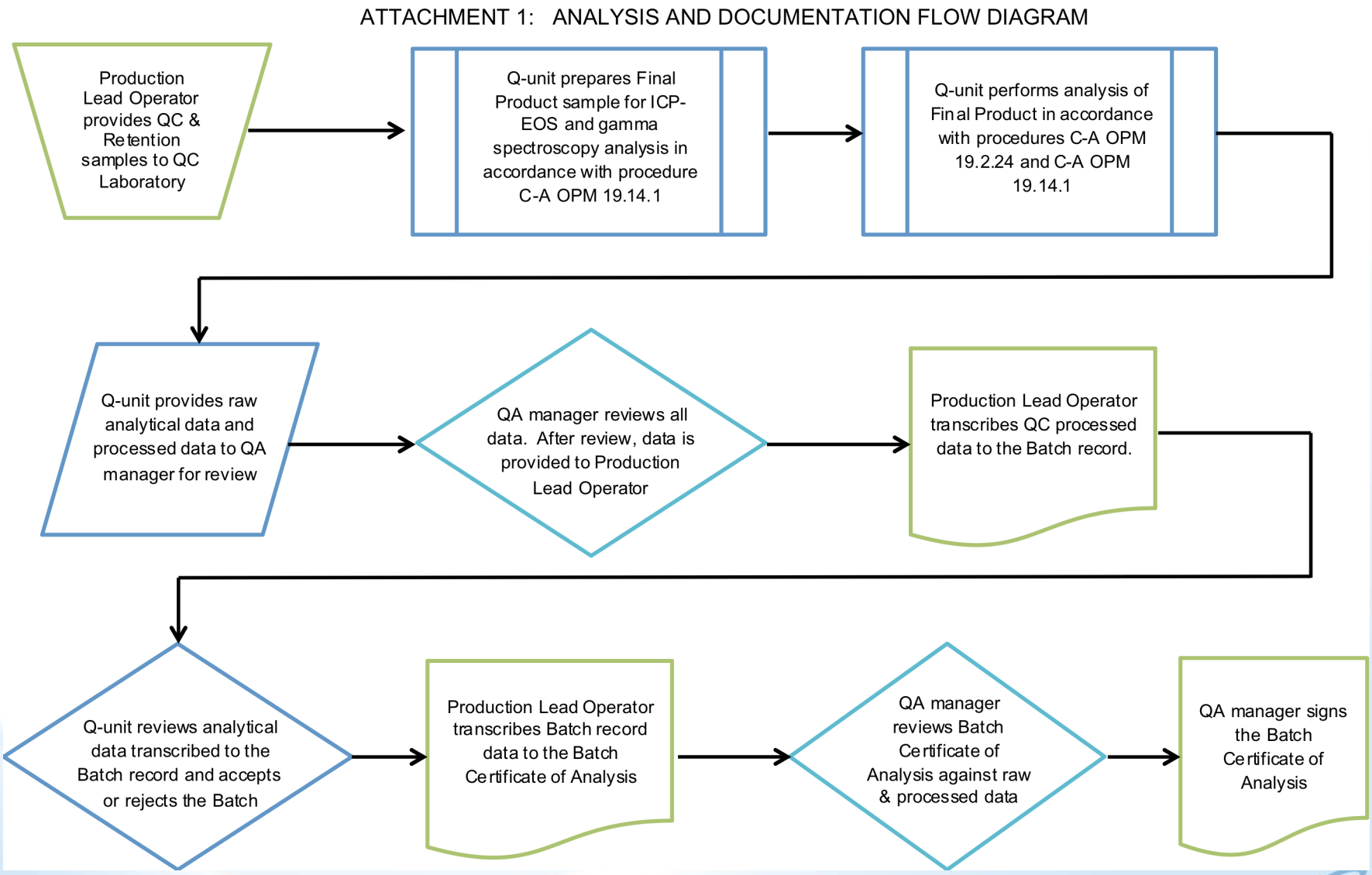
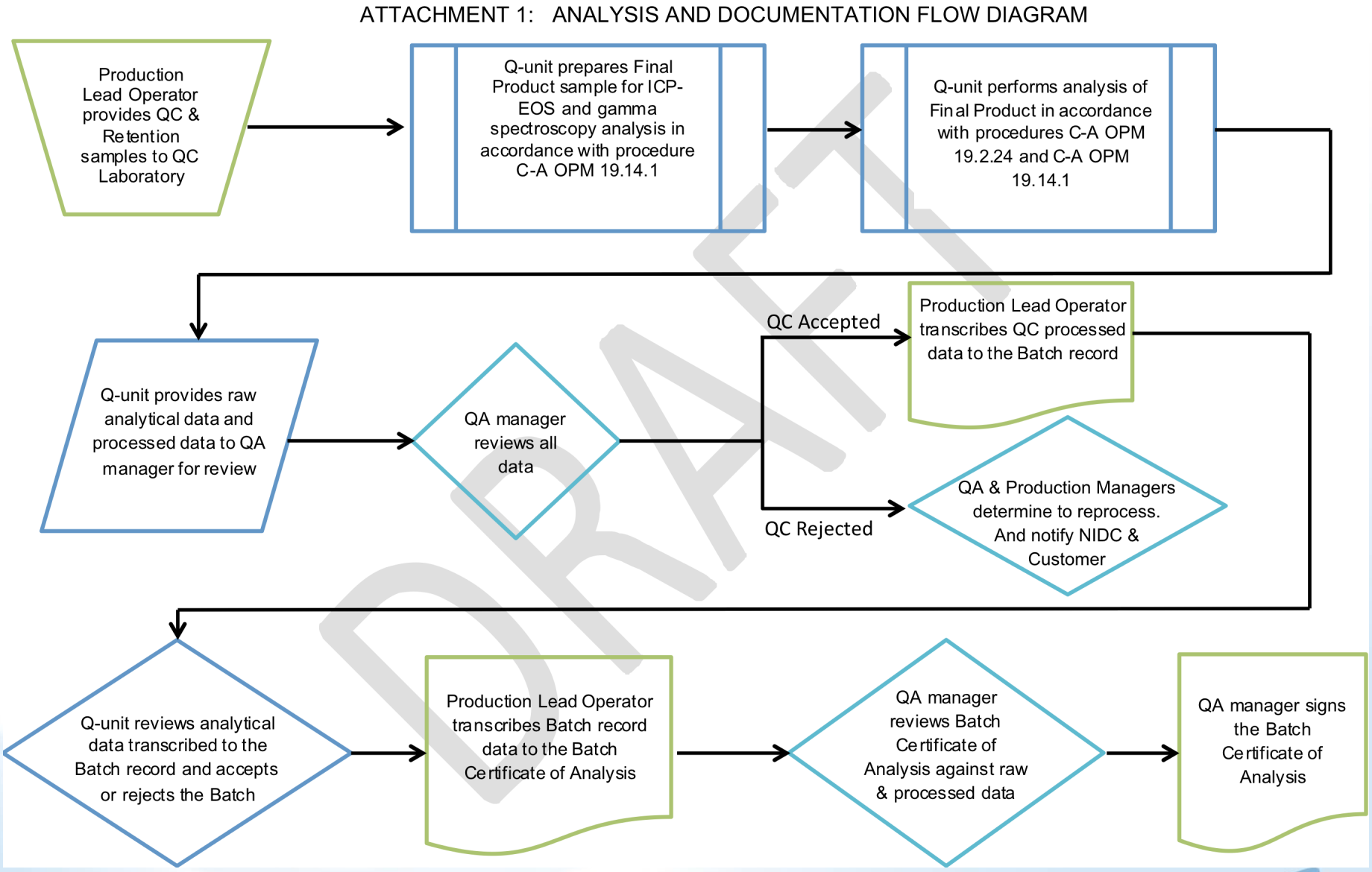
Do you have a decision tree for pass and fail products?



Revised in draft – based on draximage recent audit



Schedule for TPL and BLIP upgrades for FY15 and FY16

Space		Item	FY2015				FY2016			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TPL	$50K	Pistol grips for Sr-82 hot boxes	purchase	install						
	$20K	Dedicated Sr-82 can opener	design	implement						
	$30K	PLC hot-plate	validate		implement					
	$5K	In-cell acid scrubber	validate		implement					
	$2K plus shielding $50K	New dispensing unit with shielding	validate/ design shielding		implement					
	$50K	New fumehood				submit for funds				install
	$200K	Dispensing hot-cell for Sr-82				submit for funds				install
	$5K	New solution input lines into hot cells	install							
		Complete processing method validation		gather data		complete report				
	$5K	New plastic curtain barriers	install							
		Air-quality baseline	establish							
BLIP	$50K	Water sampling unit			design	implement				
		Bench-top fumehood for beam QA	install							
	$40K if new	Phosphorimager for beam QA	purchase/move		implement					
	$10K	New chain system for target assembly				design				implement
66C/ BLIP	? To be scoped	Outfit for Ac-225				scope				implement
66B	$10K	New floor and Biodex storage	design		implement					
57A	$40K	Microplate reader (QA/QC)	purchase	implement						
		Optimize Sr-82 process				write report				
68	$60K or up to $120K if compton suppressed	New gamma spectrometer	submit for funds	install						
		Analytical method validation		gather data		complete report				
	$50K purchase and implement	New fumehood/QC relocation		submit for funds	implement					
52		Ni-63 relocation to glove box		commision old glove box		relocate				

op funds

cap funds